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(54) Title of the Device: **A Tampon**

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(55) References: Patent Disclosure No. 47-45918 [1970] (JP, B1)
Utility Model Disclosure No. 13-16501 [1938] (JP, Y1)

(57) Claim

A tampon characterized in that a sheet that is comprised of absorbent fibers such as cotton, that is long and narrow in the direction of the fibers and that has a width corresponding essentially to the length of the tampon is folded over in a zigzag pattern perpendicular to the direction of the fibers to form an absorbent body in the shape of a rectangular parallelepiped, in that said absorbent body is cut into at least two divided strips at suitable intervals in the lengthwise direction, in that their centers are sown together with a draw string which connects them, in that said draw string is extended to the outside from the posterior end of said absorbent body and in that said absorbent body is formed under pressure into a cylindrical shape.

Detailed Description of the Device

This device relates to a tampon that absorbs liquids such as menstrual blood.

Because this type of tampon is made by forming absorbent fibers such as cotton into a cylindrical shape, when a liquid comes into contact with it, it is absorbed only in the outside layer of the tampon and it takes time for thorough permeation and absorption to the central area. Thus, the phenomenon occurs of the liquid passing through the outside layer of the tampon and leaking to the outside of the body cavity. Moreover, leakage also occurs when the tampon as a whole does not exhibit a uniform liquid absorbing state. Therefore, there is the drawback that there is a low amount of absorption by the tampon as a whole.

The objective of this device provides a tampon whereby the conventional drawbacks described above are eliminated. The structure for the purpose of achieving this objective is described below on the basis of the mode of execution shown in the figures.

In Figure 1, 1 is a sheet that is comprised of absorbent fibers such as cotton, that is long and narrow in the direction of the fibers and that has a width corresponding essentially to the length of the tampon 2. It is folded over in a zigzag pattern so that it is perpendicular to the direction of the fibers to form the absorbent body 3 in the shape of a rectangular parallel-epiped. As shown in Figure 2, this absorbent body 3 is cut into divided strips 3a, 3b and 3c at suitable intervals in the lengthwise direction. In this state, their centers are sown together with the draw string 4 and one end of the string 4 is extended to the outside from the posterior end of the absorbent body 3.

Depending on the required formed structure, as shown in Figure 3 and Figure 4, the absorbent body 3 is formed under pressure in the diameter direction so that the draw string 4 is positioned at the center of the tampon 2. The mode of formation shown in Figure 3 is more desirable for the tampon 2 than that shown in Figure 4. However, there is no limitation on [this mode of formation].

It goes without saying that the divided strips 3a, 3b and 3c do not have to be cut and formed after folding over of the sheet as described above but that, rather, they may be formed separately, aligned in the shape of a rectangular parallelepiped and the string 4 may be sown in, this method also falling within the scope of this device.

When a liquid comes into contact with the outside layer of the tampon 2 in the device of the structure described above, the fluid permeates from the outside layer of the tampon 2 into the central area where it is absorbed by the capillary tube phenomenon of the superimposed sections of the sheet which forms the absorbent body 3. The liquid also permeated from the outside

layer of the tampon 2 into the central area where it is absorbed by the capillary tube phenomenon of the cut sections 6 of the divided strips 3a, 3b and 3c that form the absorbent body 3. Consequently, the liquid is absorbed in the outside layer of the tampon 2 and is passed through the outside layer so that it does not leak to the outside of the body cavity. Moreover, as a result of the fact that it permeates to and is absorbed rapidly in the central area of the tampon 2, the tampon 2 swells evenly. Further, for this reason, the quantity absorbed by the tampon 2 is increased, and, because the tampon 2 has the cut sections 6, when the tampon absorbs fluid, swells inside the body cavity and softens, it easily bends or indents following the shape of the body cavity at the cut sections 6 so that it conforms to the natural shape and remains in close contact to it. For this reason, leakage of the fluid is even more effectively prevented. Moreover, because it is inserted in a natural state into the body cavity in this way, it is easily withdrawn from the body cavity. Further, for these reason, the wearer does not experience a feeling of distress when it is in the inserted state or when it is being withdrawn.

Brief Explanation of the Figures

The figures illustrate modes of execution of this device. Figure 1 is an oblique view of the state in which the absorbent body is cut, Figure 2 is an oblique view of the state in which a draw string is sown into the same absorbent body as described above and Figure 3 and Figure 4 are oblique views of tampons made by forming the same absorbent body as described above under pressure into a cylindrical shape.

1 -- sheet; 2 -- tampon; 3 -- absorbent body; 3a, 3b and 3c -- cut strips; 4 -- drawn string; 5 -- superimposed sections of the sheet; 6 -- cut sections of the divided strips.

Figure 1

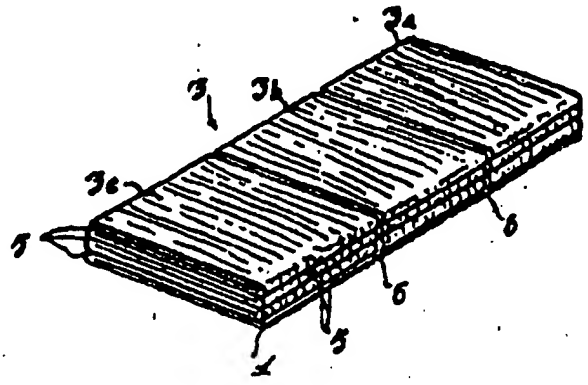

Figure 2

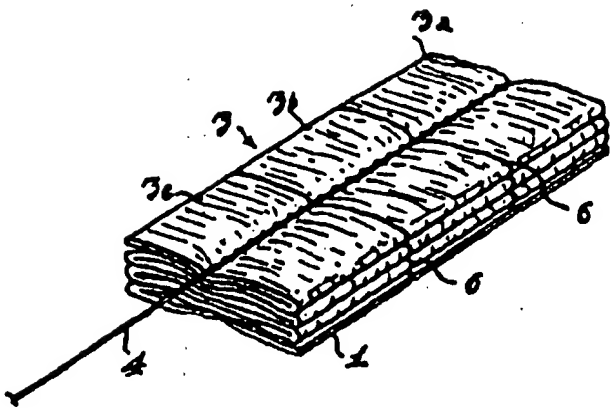

Figure 3

Figure 4